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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,881	03/23/2004	Gregory Lee Brookshire	TI-36253 (1962-08800)	2680

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EXAMINER	
HUYNH, NAM TRUNG	

ART UNIT	PAPER NUMBER
2617	

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/806,881	BROOKSHIRE, GREGORY LEE	
	Examiner	Art Unit	
	Nam Huynh	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 February 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

This office action is in response to amendment filed 2/15/2006. None of the claims 1-21 were amended.

Drawings

The drawings were received on 3/14/2006. These drawings are accepted.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2 and 4-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Hirsch et al. (US 2004/0204096).

A. Regarding claim 1 and 7, Hirsch et al. discloses a system comprising:

- A BB subsystem, or "master device" (page 3, paragraph 31).
- A RF subsystem or "slave device" (page 3, paragraph 31).
- A digital interface for the communication of informative and control signals between the BB subsystem and RF subsystem in a wireless communication system. The invention can encompass any interface, therefore giving the

capability of the invention to have a "serial interface" or a "serial peripheral interface" (page 2, paragraph 26).

- A control signal (RFCTRL) that is used by the BB subsystem to control the operating mode of the RF subsystem. The control signal represents control commands of variable lengths (page 2, paragraphs 16, 27).

B. Regarding claim 2, Hirsch et al. discloses that each control command comprises an initial 3-bits ID word indicative of an operating mode of the interface and comprises data words DATA0, ..., DATAn following the ID word (page 2, paragraph 27). Since there can be an "n" number of data words, the length of the ID word can have a length that is greater than the command lengths associated with other modes of operation.

C. Regarding claim 4, Hirsch et al. discloses that the RF subsystem receives and transmits RF signals over a wireless network via an antenna (page 2, paragraph 27) and that the wireless system is built based on one of the various wireless LAN communication standards (page 2, paragraph 26). Therefore it is inherent that the RF subsystem comprises a wireless LAN adapter in order to allow communication of the device in the system or network.

D. Regarding claim 5, Hirsch et al. discloses that the control signal (RFCTRL) is used by the BB subsystem to control the operating mode of the RF subsystem, and to read and/or write registers of the RF subsystem.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirsch et al. (US 2004/0204096) in view of Litwin (US 6,704,584).

A. Regarding claim 3, Hirsch et al. discloses a system comprising:

- A BB subsystem, or "master device" (page 3, paragraph 31).
- A RF subsystem or "slave device" (page 3, paragraph 31).
- A digital interface for the communication of informative and control signals between the BB subsystem and RF subsystem in a wireless communication system. The invention can encompass any interface, therefore giving the capability of the invention to have a "serial interface" or a "serial peripheral interface" (page 2, paragraph 26).
- A control signal (RFCTRL) that is used by the BB subsystem to control the operating mode of the RF subsystem. The control signal represents control commands of variable lengths (page 2, paragraphs 16, 27).

Hirsch et al. does not explicitly disclose that the master device comprises a processor of a battery operated electronic device. Litwin discloses a method for data transference between a master and slave device wherein the master device is battery powered and has a CPU or processor (figure 1, item 165 and figure 4, item 412). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to follow the teachings of Litwin, and allow the BB subsystem (master) to comprise a processor and be battery powered. Battery powered wireless devices coupled with processors are notoriously well known in the art.

B. Regarding claim 6, Litwin discloses memory (figure 1, items 106,108) for the master/slave device.

6. Claims 8-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Litwin (US 6,704,584) in view of Hirsch et al. (US 2004/0204096).

A. Regarding claim 8, Litwin discloses a wireless device used in a master/slave network comprising a CPU or "processor" (figure 1, item 102). The device is battery powered and can be used as either a master or a slave therefore rendering the limitation of a "slave device coupled to the processor" when more than one of the devices are used in the master/slave network wherein at least one of the devices is a master. Litwin et al. does not explicitly disclose that the processor and slave device are configurable to communicate in multiple modes, with each mode being associated with a different read/write command length. Hircsh et al. discloses a system comprising a control signal (RFCTRL) that is used by the BB subsystem to control the operating mode of the RF subsystem. The control signal represents control commands of

variable lengths (page 2, paragraphs 16, 27). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement control commands of variable length, as taught by Hirsch et al., in the system of Litwin in order to allow the master to transmit commands as a short or long control word. A critical command that needs to be transmitted quickly would be sent as a short control word and alternatively, a command in which timing and delays are not critical would be sent as a long control word. This added capability would increase the data throughput between the two devices.

B. Regarding claim 9, Hirsch et al. discloses a control command that comprises a read/write field, a data length field, and an address field (page 2, paragraph 29).

C. Regarding claim 10, Litwin discloses a sleep mode in which a slave is able to conserve power (column 2, lines 46-59). Therefore it would have been further obvious to one of ordinary skill in the art at the time the invention was made to implement the sleep mode as one of the multiple modes in which the slave can operate by the short command.

D. Regarding claim 11, it would further be obvious that since a slave is able to go into a sleep mode to conserve power, as stated above in regards to claim 10, that this mode would only be needed when the slave is battery-powered and does not have an infinite power source.

E. Regarding claims 12 and 18, Litwin discloses a threshold reserve level or levels at which a master device seeks replacement (column 2, lines 30-37).

F. Regarding claim 13, Litwin discloses a method for data transference between a master and slave device in which the role of the master is dynamically re-assigned from devices with low battery power reserves to devices with high battery reserves, preferably to a device that is plugged into a utility power outlet (column 3, lines 6-11). Therefore, rendering the step of "determining if a power consumption parameter of a device exists". Litwin does not explicitly disclose the configuring of a device to interpret read/write commands having a reduced and non-reduced length when a power consumption parameter exists. Hircsh et al. discloses a system comprising a control signal (RFCTRL) that is used by the BB subsystem to control the operating mode of the RF subsystem. The control signal represents control commands of variable lengths (page 2, paragraphs 16, 27). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement control commands of variable length, as taught by Hirsch et al., in the system of Litwin in order to allow the master to transmit commands as a short or long control word. A critical command that needs to be transmitted quickly would be sent as a short control word and alternatively, a command in which timing and delays are not critical would be sent as a long control word. This added capability would increase the data throughput between the two devices.

G. Regarding claims 14-15, Hirsch et al. discloses that each control command comprises an initial 3-bits ID word indicative of an operating mode of the interface and comprises data words DATA0, ..., DATAn following the ID word (page 2, paragraph 27).

Therefore it would have been further obvious to use a word that is either 32 or 16 bits to switch between the two modes.

H. Regarding claim 16, Hirsch et al. discloses several wireless protocols in which the system can operate (column 2, paragraph 26).

I. Regarding claim 17, Litwin discloses battery powered device(s) (figure 1) in the system and can be used as either a master or a slave.

J. Regarding claim 19, the limitations are rejected as set forth in claims 8 and 13.

K. Regarding claim 20, Hirsch et al. discloses that a critical command in which timing and delays are critical are sent as a short control word and general commands are sent as a long control word (page 2, paragraph 16).

K. Regarding claim 21, Hirsch et al. discloses that the invention can encompass any interface for the communication of informative and control signals between the BB subsystem and RF subsystem (page 2, paragraph 26).

Response to Arguments

7. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nam Huynh whose telephone number is 571-272-5970. The examiner can normally be reached on 8 a.m.-5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NTH
4/14/06

GEORGE ENG
SUPERVISORY PATENT EXAMINER